> The amendment to claims 1, 10, 20 and 28 provides a negative limitation, excluding a hydrogen ion or ion aggregate from the mammalian substance to be detected. It is noted that the original specification on page 2, lines 8-13 discloses a hydrogen ion or ion aggregate as a mammalian substance capable of being detected, but the specification does not disclose the negative limitation of excluding a hydrogen ion or ion aggregate from detection.

Contrary to the Examiner's position, M.P.E.P. 2173.05(i) plainly states:

> Any negative limitation or exclusionary proviso must have basis in the original disclosure. If alternative elements are positively recited in the specification, they may be explicitly excluded in the claims. See In Re Johnson, 558 F.2d 1008, 1019, 194 USPQ 187, 196 (CCPA 1977) ("The specification, having described the whole, necessarily described the part remaining"). See also Ex Parte Grasselli, 231 USPQ 393 (Bd. App. 1983), aff'd mem., 738 F.2d 453 (Fed. Cir. 1984).

Pursuant to M.P.E.P. 2173.05(i), and the prevailing case law, the negative limitation in Claims 1, 10, 20 and 28 is properly supported by Applicants' specification. The rejection under 35 U.S.C. §112, first paragraph, is improper and should be withdrawn.

b) The Rejections Under 35 U.S.C. §103(a) Are Not Tenable

The Examiner rejected Claims 1, 3-11, 14-20, 22-26 and 28 under 35 U.S.C. §103(a) as obvious over U.S. Publication 2003/0158530 ("Diehl et al.") in view of the article entitled "Critical Revision Of Presumptive Tests For Bloodstains ("Ponce et al.") and U.S. Patent 3,917,452 ("Rittersdorf et al."). This rejection is respectfully traversed.

Diehl et al. discloses a wearable article comprising a dehydration indicator adapted to measure a urine ionic strength correlated to a specific gravity of the wearer's urine and provide a visible signal when the urine ionic strength reaches a value corresponding to a predetermined threshold of specific gravity (Abstract). While the reference does not specifically mention the type of ions detected, it is known that the ions in urine include hydrogen ions, as well as ion aggregates (e.g., sodium chloride). From the examples, it is apparent that hydrogen ions (the concentration of which defines pH) are being detected. Other than by measuring the concentration of hydrogen ions, or ion aggregates such as sodium chloride, there is no apparent alternative for measuring the ionic strength in urine. Thus, a fair reading of Diehl et al. would require the detection of hydrogen ions, and/or ion aggregates such as sodium chloride.

Applicants' Claims 1, 10, 20 and 28 preclude the detection of hydrogen ions, or ion aggregates. Yet the disclosure of Diehl et al. cannot be modified to measure any parameter other than ionic strength. To do so would defeat the primary objective of Diehl et al., which is to measure ionic strength in urine. See M.P.E.P. 2143.01:

> If the proposed modification [of the prior art reference] would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. In Re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

A reference such as Diehl et al., which is directed to a measurement of ionic strength in urine, cannot be modified to exclude the detection of hydrogen ions, and ion aggregates. To do so would render Diehl et al. inoperable for its intended purpose. Accordingly, Diehl et al. cannot be relied upon to show obviousness of Applicants' claims which preclude the detection of hydrogen ions or ion aggregates.

Ponce et al. discloses chemical reagents useful in detecting blood in blood stains. Instead of detecting ions, the reagents function according to an oxidation-reduction reaction (p. 2). The Examiner alleges that the disclosed reagents (phenolphthalein, o-tolidine and leucomalachite) can be substituted for the chemicals employed by Diehl et al. However, as explained above, such a substitution cannot be made where the reagents are not effective for detecting and measuring the ionic strength in urine. As further explained in M.P.E.P. 2143.01:

> If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teaching of the

> references are not sufficient to render the claims prima facie obvious. In Re Ratti, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

The ionic strength detection system of Diehl et al. cannot be modified by substituting the reagents of Ponce et al. because such a modification would a) completely change the principle of operation of the Diehl et al. system, and b) render the Diehl et al. system inoperable for its intended purpose of measuring ionic strength in urine. Accordingly, the references cannot be combined to support an obviousness rejection.

Rittersdorf et al. is cited as allegedly providing a suggestion to combine Diehl et al. with Ponce et al. As explained above, any suggestion to combine would be negated by the fact that such a combination would a) completely change the principle of operation of the Diehl et al. system, and b) render the system of Diehl et al. inoperable for its intended purpose of measuring ionic strength in urine. Furthermore, Rittersdorf et al. discloses a system for detecting blood in urine by detecting the presence of peroxidatively-active substances found in blood. Rittersdorf et al. does not disclose reagents capable of detecting and measuring ionic strength in urine, as required for the system disclosed in Diehl et al. to function properly.

For at least these reasons, the obviousness rejection of Claims 1, 3-11, 14-20, 22-26 and 28 is not tenable and should be withdrawn.

The Examiner rejected Claims 10, 12, 13, 20 and 21 under 35 U.S.C. §103(a) as obvious over U.S. Patent 6,617,488 ("Springer et al.") in view of Ponce et al. and Rittersdorf et al. This rejection is respectfully traversed.

Independent Claims 10 and 20 preclude the detection of hydrogen ions, and ion aggregates. Springer et al., on the other hand, is directed to a method and apparatus for gauging pH levels in the interiors of absorbent articles (Abstract). A measurement of pH is, by definition, a measure of hydrogen ion concentration. Accordingly, the disclosure of Springer et al. cannot be modified to preclude the detection of hydrogen ions. To do so would render the disclosed method and apparatus inoperable for their intended purpose. See M.P.E.P. 2143.01 (quoted above).

Ponce et al. is cited as disclosing reagents capable of detecting blood in a sample. However, the disclosed reagents do not detect a hydrogen ion concentration as required by the method and apparatus of Springer et al. The reagents in Ponce et al. cannot be substituted into the apparatus of Springer et al. because to do so would a) completely change the principle of operation of the Springer et al. apparatus, and b) render the apparatus of Springer et al. inoperable for its intended purpose of measuring pH. See M.P.E.P. 2143.01 (quoted above).

Rittersdorf et al. is cited as allegedly providing a suggestion to combine Springer et al. with Ponce et al. As explained above, any suggestion to combine would be negated by the fact that such a combination would a) completely change the principle of operation of the Springer et al. apparatus, and b) render the apparatus of Springer et al. inoperable for its intended purpose of measuring pH. Furthermore, Rittersdorf et al. discloses a system for detecting blood in urine by detecting the presence of peroxidatively-active substances found in blood. Rittersdorf et al. does not disclose reagents capable of measuring pH, as required for the apparatus disclosed in Springer et al. to function properly.

For at least these reasons, the obviousness rejection of Claims 10, 12, 13, 20 and 21 is not tenable and should be withdrawn.

c) Conclusion

Applicants respectfully submit that the claims are in condition for allowance, and request issuance of a Notice Of Allowance.

Respectfully submitted,

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